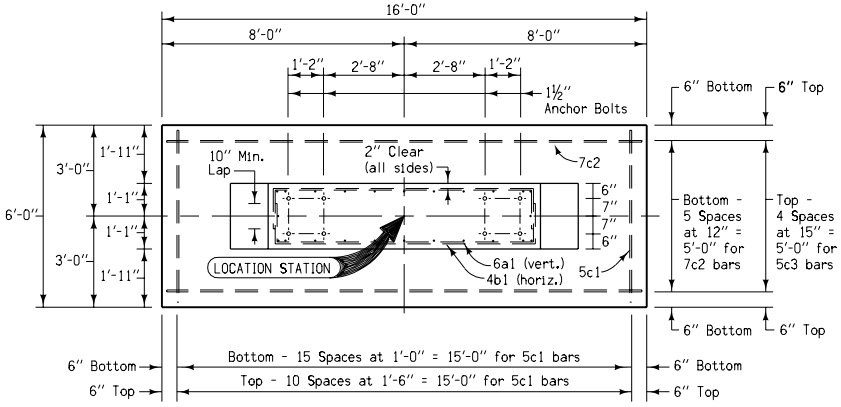
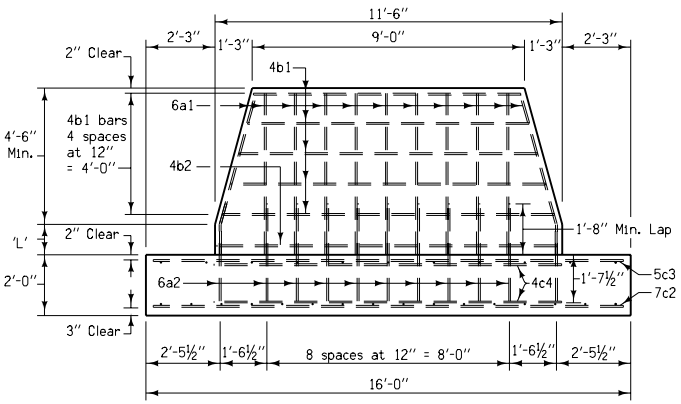
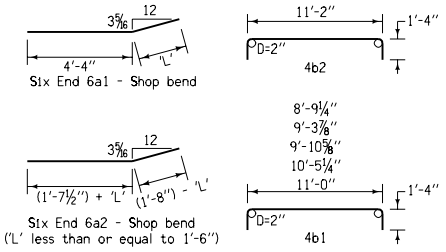


PLAN



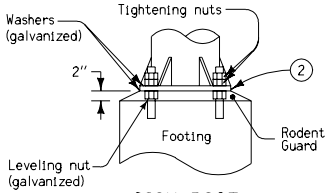
SIDE ELEVATION

(Anchor bolt assemblies and wire ducts not shown.)

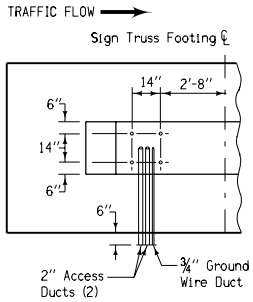


All bar dimensions shown are out to out.

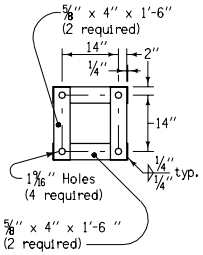
SHOP BEND DETAILS



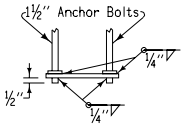
SIGN POST CONNECTION DETAIL



WIRE DUCT PLACEMENT DETAILS (1)

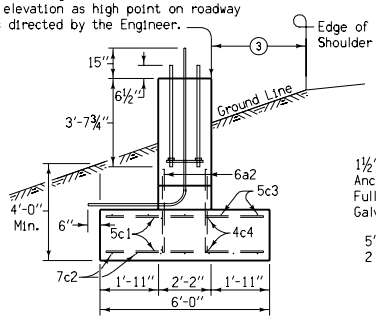


BASE DETAIL

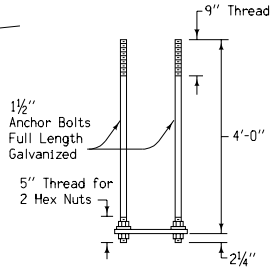


ALTERNATE DETAIL AT BOTTOM OF ANCHOR BOLTS ASSEMBLY

Top of footing elevation is to be set at same elevation as high point on roadway or as directed by the Engineer.



END ELEVATION



ANCHOR BOLT ASSEMBLY

GENERAL NOTES:

Details shown hereon are typical only and are not intended to depict any specific installations. Refer to detail project plans for sizes of footings and locations. Structural concrete, Class C, shall be used for the footing.

Excavation for footing shall be to neat lines and concrete shall be placed against the undisturbed material. All excavation for the footing shall be disposed of in the area adjacent to the footing and shaped to normal ground contour, unless otherwise directed by the Engineer. Maximum design bearing capacity is 1.5 tons per square foot.

The requirements per footing are two anchor bolt assemblies including shims, nuts (5 per bolt) and washers. Refer to current Standard and Supplemental Specifications, sections 4100 and 4187, for materials and galvanizing requirements.

A rodent guard shall be placed between the concrete footing and the base plate, see Materials I.M. 443.01.

Price bid for contract items shall include all labor and materials necessary to construct overhead sign footing as detailed hereon. The cost of furnishing and installing anchor bolt assemblies, conduits and rodent guard are to be included in the unit price bid for structural concrete. Contract items for overhead sign footing construction are:

1. Reinforcing Steel, pounds
2. Structural Concrete (Miscellaneous), cubic yards
3. Excavation, cubic yards of class specified

(1) Place 3/4" ground wire duct and two 2" access ducts within the anchor bolt circle closest to the direction of the approaching traffic. Cap ends to exclude moisture unless sign lighting is part of the contract. Extend conduit ends 6" past edge of footing on side away from roadway. Location shall be on detail project plans. All ducts shall meet requirements for plastic conduit. Footings installed in the median of a divided roadway do not require access ducts.

(2) For aluminum sign structure, place one (1) galvanized shim 1/8" x 19" x 19" at each bearing. Furnish two (2) per footing.

(3) See Footing Tabulation.

HARDWARE CLASSIFICATION				
Bolt Size	Bolt Grade	Nuts	Washers	Galvanizing
1½" Full Length Galvanized Zinc Coated	ASTM A-307 Grade C Zinc Coated or ASTM F-1554 Grade 105 Zinc Coated	ASTM A-563-DH Zinc Coated	ASTM F-436 Zinc Coated	ASTM A-153 Class C

CONCRETE PLACEMENT QUANTITIES FOR ONE FOOTING		
ITEM	'L' = 0	Each Additional 1'-0" of 'L'
Wall	3.70	0.92
Footing	7.11	
Total	10.81 cu. yds.	0.92 cu. yds.

REINFORCING BAR LIST FOR ONE FOOTING									
BAR	SHAPE	'L' = 0				Each Additional 12" of 'L'			
		NO.	LENGTH	WEIGHT	SPACING	NO.	LENGTH	WEIGHT
6a1		24	4'-4"	156	See Detail	24	12" (A)	36
6a2		24	3'-5"	129	See Detail			
4b1		10	Varies	83	12"			
4b2						2 (B)	13'-9"	18
5c1		27	5'-6"	155	See Detail			
7c2		6	15'-6"	190	12"			
5c3		5	15'-6"	81	15"			
4c4		4	11'-6"	31	See Detail			
			Total	825 lbs.			Total	54 lbs.

(A) Additional length to bar 6a1 for 'L' = 0 (B) Two in each additional 1'-0" of 'L'.

Iowa Department of Transportation
Highway Division

STANDARD ROAD PLAN RD-22D

REVISION: Add HARDWARE table; changes in General Notes.

REVISION NO. 3

REVISION DATE 10-02-01

William J. Stein
APPROVED BY DESIGN METHODS ENGINEER

OVERHEAD SIGN FOOTING DETAILS (TYPE 'B' FOOTING)